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BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			EXAMINER CARRILLO, BIBI SHARIDAN	
			ART UNIT 1746	PAPER NUMBER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/733,689
Filing Date: December 11, 2003
Appellant(s): FLATNESS ET AL.

MAILED
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GROUP 1700

William Slate
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/21/2006 appealing from the Office action mailed 8/16/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: The 35 U.S.C 103 rejection of claims 13-23 as being unpatentable over Plavnik et al. (US Patent 6,684,823) in view of Ruegg et al. (US 2004/0112306 A1).

GROUND OF REJECTION NOT ON REVIEW

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief.

a) The rejection of claims 21 and 22, under 112 first paragraph, is withdrawn in view of arguments presented by appellant.

b) The rejection of the claims, under 112, second paragraph, is withdrawn in view of arguments presented by appellant.

c) The rejection of claims 13-16 as provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-9 of copending application 10/718855.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,684,823	PLAVNIK ET AL.	02-2004
20040112306	RUEGG	06-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

a) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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b) Claims 13-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ruegg et al. (US2004/0112306).

Ruegg et al. teach cleaning of contaminants in a boiler. Ruegg teaches introducing a fuel (4) and an oxidizer (3) into the conduit (1) and igniting the air/fuel to produce a shockwave that is directed through the conduit and into the boiler to remove deposits (Abstract, paragraphs 4, 11, 36). In reference to introducing a pressurized gas, refer to paragraph 45. The limitations directed to "resist upstream infiltration of a contaminant" would inherently be met since Ruegg is performing the same method steps as the instantly claimed invention. In reference to claim 14, refer to paragraph 4. In reference to claims 15, 17 and 18, refer to paragraph 45. In reference to claim 16, the limitations are inherently met as illustrated by element 30 of Fig. 2 of Ruegg.

c) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

d) The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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e) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

f) Claims 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plavnik et al. (6684823) in view of Ruegg (2004/0112306).

Plavnik et al. teach a method for removal of ash deposits from a heat exchanger in a boiler. Plavnik et al. teach introducing a fuel and an oxidizer into a conduit and igniting the air/fuel to produce a pressure shock wave that is directed through the conduit and into the boiler to remove the ash deposits (col. 12, lines 1-13, col. 2, lines 1-17).

Plavnik teaches a purge cycle prior to the initial startup. Plavnik fails to teach purging with a pressurized gas between cycles. Ruegg teaches a device for in-line cleaning of boilers to remove deposits. In paragraph 45, Ruegg teaches that following ignition, the gas mixture of the fuel and oxidizing agent, the inner pipe is cleaned of residue by purging with compressed air via compressed air reservoir (Fig. 2). It would have been obvious to a person of ordinary skill in the art to modify the method of

Plavnik to further include purging, as taught by Ruegg, for purposes of removing residual contaminants.

In reference to resisting upstream infiltration of contaminants, the limitations are met by Plavnik since Plavnik is performing the same method step of purging. A skilled artisan would reasonably expect purging in the conduit to resist upstream infiltration of contaminants since Plavnik is performing the same method steps. In reference to claim 14, refer to the abstract, col. 2, lines 24-31 of Plavnik. In reference to claim 15, paragraph 45 of Ruegg teaches purging with air. In reference to claims 16 and 19, Plavnik teaches different embodiments in which air is introduced along different lengths of conduit. It would have been within the level of the skilled artisan to introduce the gas at a location that is 20% of the flow path since the embodiments of Figs. 1, 13 and 17 of Plavnik teaches introducing air at various locations along the conduit. In reference to claims 17-18, Ruegg teaches purging with compressed air (paragraph 45) and an oxidant comprising ambient air or flue gas (paragraph 15). In reference to claim 19, the limitations are met since the gas travels to various locations within the conduit as it is purging the interior of the conduit. In reference to claim 20, refer to the teachings of Ruegg. Specifically, one would reasonably expect the gas to be introduced continuously since Ruegg teaches in paragraph 45 that compressed air is sent through the inner pipe 22 via supply line 30. In reference to claims 21-22, it would have been obvious to a skilled artisan to modify the method of Plavnik to include a radial inward velocity and a longitudinal downstream velocity component since one would reasonably expect the helical swirling flow, as illustrated in Fig. 6, to include both a radial and a

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longitudinal direction. In reference to claim 22, Plavnik teaches a tangential component, as described in col. 5, lines 60-66 and col. 6, lines 1-10. In reference to claim 23, Plavnik teaches introducing an oxidant (air) separately via element 32 (Fig. 1) and a purge gas flow line (Fig. 18, element 304). Ruegg also teaches purging with air via element 42 and introducing an oxidant/fuel mixture which also serves as a purge flow since contaminants are broken from the walls as a result of the shockwave resulting from the ignition between the oxidant/fuel mixture (paragraph 11).

g) Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruegg et al. (2004/0112306).

Ruegg fails to teach the limitations of claim 19. However, the limitations are met since the purge gas travels to various locations within the conduit during the purging process. In reference to claim 20, one would reasonably expect the gas to be introduced continuously since Ruegg teaches in paragraph 45 that compressed air is sent through the inner pipe 22 via supply line 30. In reference to claims 21-22, Ruegg fails to teach the radial, longitudinal and tangential velocity component of the gas. However, it would have been within the level of the skilled artisan to introduce the gas in any desired manner in order to effectively remove and clean the system of residual contaminants. Additionally, a skilled artisan would have recognized the advantages of introducing the gas into the conduit at various angles in order to effectively contact all surface areas of the conduit such that contaminants can be removed.

(10) Response to Argument

- a) Appellant argues that Ruegg fails to teach preventing the upstream infiltration of contaminants. Appellant's arguments are unpersuasive because the limitations are met since Ruegg is performing the same method steps as the instantly claimed invention.
- b) Appellant argues that Ruegg fails to teach the limitations of claim 16. Appellant is directed to element 30 of Fig 2 of Ruegg.
- c) In reference to claim 18, appellant argues that Ruegg teaches the purge gas (air) which is the same as the oxidizer. Appellant's arguments are unpersuasive since paragraph 11 of Ruegg teaches oxygen as the oxidizing agent and compressed air as the purge gas (paragraph 45). Oxygen is a component of air, but oxygen and compressed air are not the same chemical components.
- d) In reference to claims 13-23, as being unpatentable over Plavnik in view of Ruegg, appellant argues that the rejection is based on hindsight reconstruction. In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
- e) Appellant argues that Plavnik in view of Ruegg fails to teach resisting upstream infiltration of contaminants. One would reasonably expect the limitations to be met by Plavnik since Plavnik teaches the same method step of purging the lines.

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f) Appellant argues that Plavnik fails to teach the limitations of claim 16. It would have been within the level of the skilled artisan to introduce gas at a location that is 20% of the flow path since the embodiments of Figs. 1, 13, 17 teaches introducing air at various locations along the conduit. In reference to claim 19, the limitations are met by Plavnik since the gas traveling to various locations within the conduit during the purging process.

g) Appellant argues that Ruegg fails to teach the limitations of claims 17-18. Appellant's arguments are unpersuasive since paragraph 11 of Ruegg teaches oxygen as the oxidizing agent and compressed air as the purge gas (paragraph 45). Oxygen is a component of air, but oxygen and compressed air are not the same chemical components.

h) Appellant argues that the combination of the prior art fails to teach the limitations of claims 20-22. In reference to claim 20, refer to the teachings of Ruegg. Specifically, one would reasonably expect the gas to be introduced continuously since Ruegg teaches in paragraph 45 that compressed air is sent through the inner pipe 22 via supply line 30. In reference to claims 21-22, it would have been obvious to a skilled artisan to modify the method of Plavnik to include a radial inward velocity and a longitudinal downstream velocity component since one would reasonably expect the helical swirling flow, as illustrated in Fig. 6, to include both a radial and a longitudinal direction. In reference to claim 22, Plavnik teaches a tangential component, as described in col. 5, lines 60-66 and col. 6, lines 1-10.

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i) Appellant argues that the prior art fails to teach the limitations of claim 23.

Specifically, appellant argues that the prior art fails teach introducing a pressurized gas supplemental to a purge flow. Appellant's arguments are unpersuasive for the following reasons. Both Plavnik and Ruegg teach an oxidizing agent. The oxidizing agent reacts with the fuel to form a shock wave which breaks off contaminants from the walls of the conduit or vessel interior. Therefore, the combination of oxidant and fuel serves as a "purge flow" since it breaks off and removes (i.e. purges) contaminants from the interior of the conduit. The additional step of purging with a purge gas reads on the limitation of the "gas supplemental".

j) Appellant argues that Ruegg fails to teach the limitations of claims 19-22.

Ruegg fails to teach the limitations of claim 19. However, the limitations are met since the purge gas travels to various locations within the conduit during the purging process. In reference to claim 20, one would reasonably expect the gas to be introduced continuously since Ruegg teaches in paragraph 45 that compressed air is sent through the inner pipe 22 via supply line 30. In reference to claims 21-22, Ruegg fails to teach the radial, longitudinal and tangential velocity component of the gas. However, it would have been within the level of the skilled artisan to introduce the gas in any desired manner in order to effectively remove and clean the system of residual contaminants. Additionally, a skilled artisan would have recognized the advantages of introducing the gas into the conduit at various angles in order to effectively contact all surface areas of the conduit such that contaminants can be removed.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sharidan Carrillo
Primary Examiner
AU 1746



**SHARIDAN CARRILLO
PRIMARY EXAMINER**

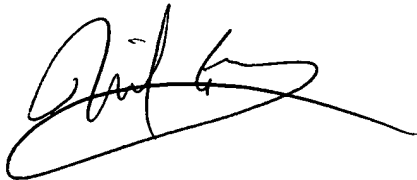
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